IN THE CLAIMS:

Please amend Claims 7, 8, and 188 as shown below.

1 to 6. (Cancelled)

7. (Currently Amended) A process for detecting a target single-stranded nucleic acid having a first base sequence, said process comprising the steps of:

forming a double-stranded nucleic acid by hybridizing said target single-stranded nucleic acid with a probe nucleic acid having a second base sequence complementary to said first base sequence;

providing a chemiluminescent compound ~~capable of being associated with a double-stranded nucleic acid;~~ and then associating said chemiluminescent compound with ~~the~~ said double stranded nucleic acid ~~resulting from said forming step~~; and

detecting chemiluminescence from said chemiluminescent compound associated with said double-stranded nucleic acid, with the detected chemiluminescence being indicative of said target single-stranded nucleic acid,

wherein said chemiluminescent compound is capable of being inserted into the double helical structure of said double-stranded nucleic acid as an intercalator,

wherein the chemluminescence-detecting step is conducted under a condition that only said chemiluminescent compound associated with said double-stranded nucleic acid can exhibit chemiluminescence,

wherein said condition is in an aqueous medium in which said

chemiluminescent compound non-associated with a double-stranded nucleic acid does not exhibit chemiluminescence, and

wherein said aqueous medium is a mixture solution of water and an organic solvent miscible with water, with said organic solvent comprising at least one solvent selected from the group consisting of methanol, ethanol, acetonitrile, dimethylformamide, dimethylsulfoxide, and isopropanol.

8. (Currently Amended) A process for detecting a target single-stranded nucleic acid having a first base sequence, said process comprising the steps of:

forming a double-stranded nucleic acid by hybridizing said target single-stranded nucleic acid with a probe nucleic acid having a second base sequence complementary to said first base sequence;

providing a chemiluminescent compound ~~capable of being associated with a double-stranded nucleic acid,~~ and then associating said chemiluminescent compound with ~~the~~ said double stranded nucleic acid ~~resulting from said forming step~~; and

detecting chemiluminescence from said chemiluminescent compound associated with said double-stranded nucleic acid, with the detected chemiluminescence being indicative of said target single-stranded nucleic acid,

wherein said chemiluminescent compound is capable of being inserted into the double helical structure of said double-stranded nucleic acid as an intercalator,

wherein the chemluminescence-detecting step is conducted under a condition that only said chemiluminescent compound associated with said double-stranded nucleic acid can exhibit chemiluminescence,

wherein said condition is in an aqueous medium in which said chemiluminescent compound non-associated with a double-stranded nucleic acid does not exhibit chemiluminescence, and

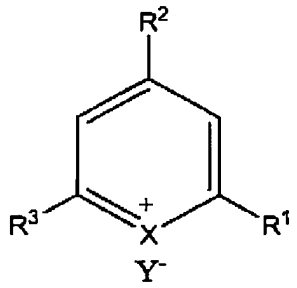
wherein said aqueous medium is a mixture solution of water and an organic solvent miscible with water, with said mixture solution having a content of said organic solvent falling within 2 to 50% by volume relative to water.

9. (Original) The process according to Claim 8, wherein said content falls within 5 to 20% by volume relative to water.

10. (Previously Presented) The process according to Claim 7, wherein pH of said aqueous medium ranges from 5 to 8.

11. (Cancelled)

12. (Previously Presented) The process according to Claim 7, wherein said chemiluminescent compound is a pyrylium compound represented by the following formula [1]:



[1],

wherein:

X is O, S, Se or Te;

two of R^1, R^2 and R^3 are independently a substituted or unsubstituted aryl group;

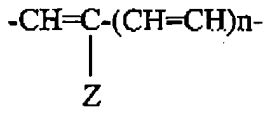
the other of R^1, R^2 and R^3 is a hydrogen atom, halogen atom, sulfonate group, amino group, styryl group, nitro group, hydroxyl group, carboxyl group, cyano group, substituted or unsubstituted alkyl group, substituted or unsubstituted cycloalkyl group, -A or -L-A, wherein:

L is $-L^1-$, $-L^2-L^3-$ or $-L^4-L^5-L^6-$, wherein each of L^1 to L^6 is independently -(CH=CH)-, a divalent group derived from the substituted or unsubstituted aryl group, a substituted or unsubstituted lower alkylene group, or $-CH=R^4-$, wherein R^4 is a ring structure having an oxo group; and

A is a substituted or unsubstituted aryl group, or $-CH=R^5$, wherein R^5 is a substituted or unsubstituted heterocyclic ring, substituted or unsubstituted cycloalkyl group or substituted or unsubstituted aromatic ring; and

Y^- is an anion.

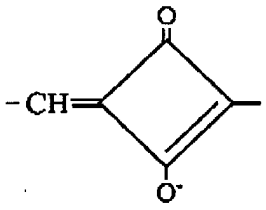
13. (Original) The process according to Claim 12, wherein L in said formula [1] is any one of the groups represented by the following formulae [2] to [6], respectively



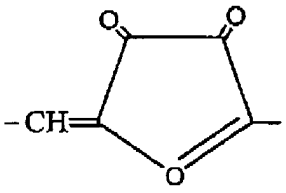
[2] ;

-ϕ-(CH=CH)n- [3] ;

-CH=CH-ϕ-CH=CH- [4] ;



[5] ; and



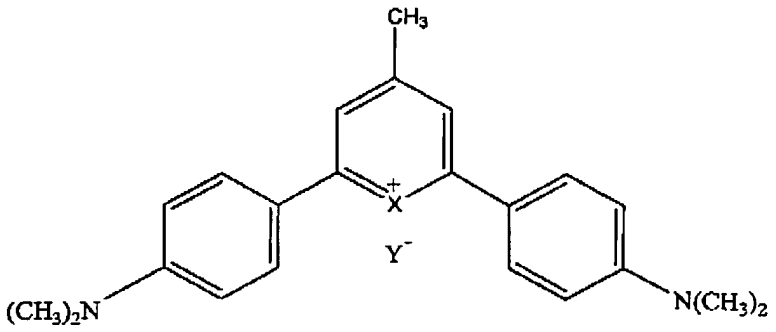
[6] ,

wherein Z is a hydrogen atom or a substituted or unsubstituted lower alkyl group, n is 0, 1 or 2, and ϕ is a substituted or unsubstituted o-, m- or p-phenylene group.

14 to 185. (Cancelled)

186. (Previously Presented) The process according to Claim 12, wherein said chemiluminescent compound represented by formula [1] is a compound represented by the

following formula [9]:



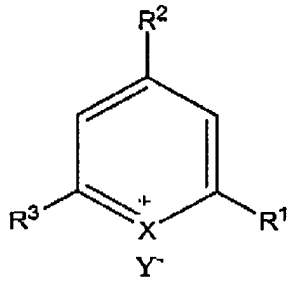
[9],

wherein X is O, S, Se, or Te, and Y^- is an anion.

187. (Previously Presented) The process according to Claim 8, wherein pH of said aqueous medium ranges from 5 to 8.

188. (Currently Amended) The process according to ~~Claim 8~~ Claim 8, wherein said chemiluminescent compound is a pyrylium compound represented by the following formula

[1]:



[1],

wherein:

X is O, S, Se or Te;

two of R^1, R^2 and R^3 are independently a substituted or unsubstituted aryl group;

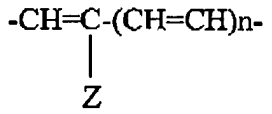
the other of R^1, R^2 and R^3 is a hydrogen atom, halogen atom, sulfonate group, amino group, styryl group, nitro group, hydroxyl group, carboxyl group, cyano group, substituted or unsubstituted alkyl group, substituted or unsubstituted cycloalkyl group, -A or -L-A, wherein:

L is $-L^1-$, $-L^2-L^3-$ or $-L^4-L^5-L^6-$, wherein each of L^1 to L^6 is independently -(CH=CH)-, a divalent group derived from the substituted or unsubstituted aryl group, a substituted or unsubstituted lower alkylene group, or $-CH=R^4-$, wherein R^4 is a ring structure having an oxo group; and

A is a substituted or unsubstituted aryl group, or $-CH=R^5$, wherein R^5 is a substituted or unsubstituted heterocyclic ring, substituted or unsubstituted cycloalkyl group or substituted or unsubstituted aromatic ring; and

Y^- is an anion.

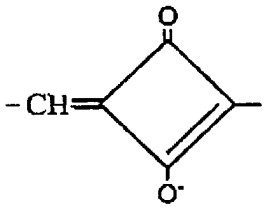
189. (Previously Presented) The process according to Claim 188, wherein L in said formula [1] is any one of the groups represented by the following formulae [2] to [6], respectively



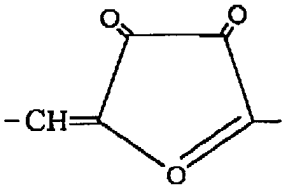
[2] ;

-ϕ-(CH=CH)n- [3] ;

-CH=CH-ϕ-CH=CH- [4] ;



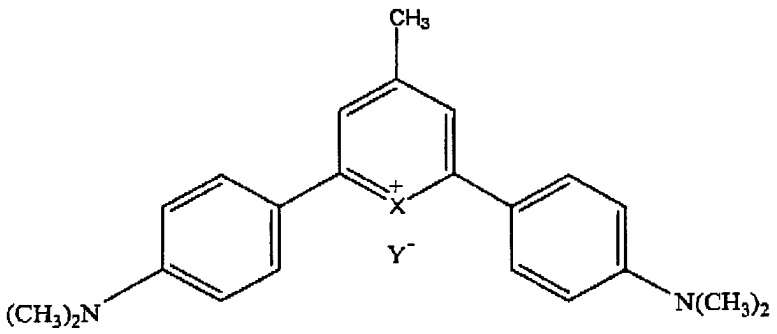
[5] ; and



[6] ,

wherein Z is a hydrogen atom or a substituted or unsubstituted lower alkyl group, n is 0, 1 or 2, and ϕ is a substituted or unsubstituted o-, — or p-phenylene group.

190. (Previously Presented) The process according to Claim 188, wherein said chemiluminescent compound represented by formula [1] is a compound represented by the following formula [9]:



[9],

wherein X is O, S, Se, or Te, and Y^- is an anion.